

#### ABSTRACT OF THE DISCLOSURE

A data processing system containing multiple dedicated processing units connected via data transfer units to a program controlled central processor comprising a first data processing unit, performing processing of data under program control, a plurality of second data processing units, each performing processing of data under wired logic control, a storage unit storing the data, a first data transfer unit, connecting the first data processing unit and the second processing unit via the storage unit, and a second data transfer unit, connecting the plurality of second data processing units. Since the second data transfer unit, connecting the plurality of second data processing units operating under wired logic control are provided, the data transfer between a plurality of the second data processing units can be performed via the second data transfer unit. Accordingly, the frequency of the data transfer via the first data transfer unit is suppressed.